The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 22

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte PAUL M. URBANUS
and DONALD B. DOHERTY

Appeal No. 1998-2572
Application 08/342,671

ON BRIEF

Before KRASS, JERRY SMITH and GROSS, Administrative Patent Judges.

JERRY SMITH, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on the appeal under 35 U.S.C. § 134 from the examiner's rejection of claims 1-11, which constitute all the claims in the application.

The disclosed invention pertains to a method for using a memory for storing data for use in a display system having a processor for processing pixel data and having a spatial light

modulator (SLM) for generating an image. The invention is particularly directed to a technique for processing two different frames of video data at the same time.

Representative claim 1 is reproduced as follows:

1. A method of using a memory for storing data for use in a display system having a processor for processing pixel data and having a spatial light modulator (SLM) for generating an image, comprising the steps of:

writing a first video frame of samples of pixel data into said memory during a first frame period;

writing a second video frame comprised of samples of pixel data to said memory during a second frame period, such that each sample of said second video frame is written over the corresponding sample of said first video frame;

reading said data from said memory in bit-planes;

repeating said reading step such that at least the same number of bit-planes as the number of bits representing each pixel intensity are read out during a display frame period;

wherein one or more of the reading steps are performed with data from said samples of said first video frame and data from said samples of said second video frame;

delivering each of said bit-planes to said spatial light modulator, wherein said spatial light modulator displays such bit-planes as a display frame with said data from said first video frame and data from said second video frame in each said bit-plane and in each said display frame; and

wherein all of said steps are repeated to generate a continuous display of images.

The examiner relies on the following references:

Ishii	4,789,854	Dec. 06, 1988
Wakeland	5,254,984	Oct. 19, 1993
Urbanus	5,255,100	Oct. 19, 1993

Claims 1-11 stand rejected under 35 U.S.C. § 103 as being unpatentable over the teachings of Urbanus in view of Wakeland. Claim 1[1] also stands rejected under 35 U.S.C. § 103 as being unpatentable over the teachings of Urbanus in view of Ishii.

Rather than repeat the arguments of appellants or the examiner, we make reference to the brief and the answer for the respective details thereof.

OPINION

We have carefully considered the subject matter on appeal, the rejections advanced by the examiner and the evidence of obviousness relied upon by the examiner as support for the rejections. We have, likewise, reviewed and taken into consideration, in reaching our decision, the appellants' arguments set forth in the brief along with the examiner's

[1] Although appellants respond to this rejection as if it applies to claims 1-11, the answer and the final rejection both list claim 1 as the only claim subject to this rejection.

rationale in support of the rejections and arguments in rebuttal set forth in the examiner's answer.

It is our view, after consideration of the record before us, that the evidence relied upon and the level of skill in the particular art would not have suggested to one of ordinary skill in the art the obviousness of the invention as set forth in claims 1-11. Accordingly, we reverse.

We consider first the rejection of claims 1-11 under 35 U.S.C. § 103 based on Urbanus and Wakeland. In rejecting claims under 35 U.S.C. § 103, it is incumbent upon the examiner to establish a factual basis to support the legal conclusion of obviousness. See In re Fine, 837 F.2d 1071, 1073, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). In so doing, the examiner is expected to make the factual determinations set forth in Graham v. John Deere Co., 383 U.S. 1, 17, 148 USPQ 459, 467 (1966), and to provide a reason why one having ordinary skill in the pertinent art would have been led to modify the prior art or to combine prior art references to arrive at the claimed invention. Such reason must stem from some teaching, suggestion or implication in the prior art as a whole or knowledge generally available to one having ordinary

skill in the art. Uniroyal, Inc. v. Rudkin-Wiley Corp., 837 F.2d 1044, 1051, 5 USPQ2d 1434, 1438 (Fed. Cir.), cert. denied, 488 U.S. 825 (1988); Ashland Oil, Inc. v. Delta Resins & Refractories, Inc., 776 F.2d 281, 293, 227 USPQ 657, 664 (Fed. Cir. 1985), cert. denied, 475 U.S. 1017 (1986); ACS Hosp. Sys., Inc. v. Montefiore Hosp., 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). These showings by the examiner are an essential part of complying with the burden of presenting a prima facie case of obviousness. Note In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). If that burden is met, the burden then shifts to the applicant to overcome the prima facie case with argument and/or evidence. Obviousness is then determined on the basis of the evidence as a whole and the relative persuasiveness of the arguments. See Id.; In re Hedges, 783 F.2d 1038, 1039, 228 USPQ 685, 686 (Fed. Cir. 1986); In re Passaic, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984); and In re Rinehart, 531 F.2d 1048, 1052, 189 USPQ 143, 147 (CCPA 1976). Only those arguments actually made by appellants have been considered in this decision. Arguments which appellants could have made but chose not to make in the brief have not been

considered [see 37 CFR § 1.192(a)].

With respect to sole independent claim 1, the examiner notes that Urbanus teaches the processing of pixel data for display on an SLM. The examiner admits that Urbanus "does not disclose the relationship between reading and writing operations of pixel data during the first and second frame period to and from the memory" [answer, pages 3-4]. The examiner cites Wakeland as teaching that it was well known to read and write first and second overlaying images simultaneously. The examiner concludes that it would have been obvious to the artisan to incorporate Wakeland's simultaneous storage and reading of first and second images into the device of Urbanus in order to decrease the required memory size [id., page 4].

Appellants argue that the definition of bit-planes as set forth in their specification is different from the bit-planes of Wakeland. Appellants also argue that the claimed invention recites the processing of two different frames of data whereas Wakeland teaches the processing of two superimposed images within the same data frame [brief, pages 4-6]. The examiner responds that Wakeland's bit-planes are

the same as appellants' bit-planes and that the claimed simultaneous processing of two frames of data as broadly interpreted is met by the teachings of Wakeland [answer, page 7].

We are not persuaded by appellants' first argument that the bit-planes of claim 1 are different from the bit-planes of Wakeland because it appears to us that Urbanus teaches the conversion of pixel data into bit-plane data for display on an SLM. Thus, Wakeland is not needed to teach this feature of the claimed invention. However, we are persuaded by appellants' second argument. The entire thrust of appellants' invention results from the simultaneous processing of two different frames of data. As argued by appellants, Wakeland is concerned with the processing of two images to be superimposed within the same frame of data and has nothing to do with the simultaneous processing of data from two different frames of data. We can find nothing in Wakeland to support the examiner's bare assertion that Wakeland suggests the simultaneous processing of two different frames of data. Therefore, the examiner has failed to establish a prima facie case of the obviousness of independent claim 1 based on the

teachings of Urbanus and Wakeland.

For all the reasons discussed above, we do not sustain the examiner's rejection of independent claim 1 based on Urbanus and Wakeland. Since claims 2-11 depend from claim 1, we also do not sustain the examiner's rejection of these claims.

We now consider the rejection of claim 1 based on the teachings of Urbanus and Ishii. The examiner's reliance on Urbanus has been discussed above, and the examiner cites Ishii for essentially the same reasons discussed above with respect to Wakeland. Appellants argue that Ishii suffers the exact same deficiencies which were discussed above with respect to the rejection based on Wakeland.

We agree with the position argued by appellants. Ishii, like Wakeland, is concerned with the processing of two different images to be superimposed within the same frame of data, and not with the simultaneous processing of an image from two different frames of data. Therefore, we do not sustain this rejection of claim 1 for the same reasons discussed above with respect to the rejection based on Urbanus and Wakeland.

In summary, we have not sustained either of the examiner's reactions of claims 1-11. Therefore, the decision of the examiner rejecting claims 1-11 is reversed.

REVERSED

ERROL A. KRASS Administrative Patent Judge	)
JERRY SMITH Administrative Patent Judge	) BOARD OF PATENT) APPEALS AND) INTERFERENCES
ANITA PELLMAN GROSS Administrative Patent Judge	)

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